SEQUENCE LISTING

<110> Braun, Jonathan Sutton, Christopher L.

<120> IBD-Associated Microbial Nucleic Acid Molecules

<130> P-PM 4966

<150> US 09/303,120

<151> 1999-04-30

<150> US 09/820,576

<151> 2001-03-28

<160> 10

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<211> 302

<212> DNA

<213> Unknown

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<223> Microbial Organism from the human gut

<221> CDS

<222> (2)...(301)

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Asp Leu Ala Ser Ala Val Gly Ile Gln Ser Gly Ser Ile Phe His His
1 5 10 15

ttc aag agc aag gat gag ata ttg cgt gcc gtg atg gag gaa acc atc 97
Phe Lys Ser Lys Asp Glu Ile Leu Arg Ala Val Met Glu Glu Thr Ile
20 25 30

cat tac aac acc gcg atg atg cgc gct tca ctg gag gag gcg agc acg 145 His Tyr Asn Thr Ala Met Met Arg Ala Ser Leu Glu Glu Ala Ser Thr 35 40 45

gtg cgc gaa cgc gtg ctg gcg ctg atc cgc tgc gag ttg cag tcg atc 193
Val Arg Glu Arg Val Leu Ala Leu Ile Arg Cys Glu Leu Gln Ser Ile
50 55 60

atg ggc ggc agt ggc gag gcc atg gcg gtg ctg gtc tac gaa tgg cgc 241

Met Gly Gly Ser Gly Glu Ala Met Ala Val Leu Val Tyr Glu Trp Arg

65 70 75 80

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teg etg teg gee gaa gge eag geg eac gtg etg gee etg egt gae gtg
Ser Leu Ser Ala Glu Gly Gln Ala His Val Leu Ala Leu Arg Asp Val
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tat gag cag atc t
                                                                    302
Tyr Glu Gln Ile
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<210> 2
<211> 100
<212> PRT
<213> Unknown
<220>
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Phe Lys Ser Lys Asp Glu Ile Leu Arg Ala Val Met Glu Glu Thr Ile
His Tyr Asn Thr Ala Met Met Arg Ala Ser Leu Glu Glu Ala Ser Thr
Val Arg Glu Arg Val Leu Ala Leu Ile Arg Cys Glu Leu Gln Ser Ile
Met Gly Gly Ser Gly Glu Ala Met Ala Val Leu Val Tyr Glu Trp Arg
                    70
                                         75
Ser Leu Ser Ala Glu Gly Gln Ala His Val Leu Ala Leu Arg Asp Val
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Tyr Glu Gln Ile
            100
<210> 3
<211> 392
<212> DNA
<213> Unknown
<223> Microbial Organism from the human gut
<221> CDS
<222> (2)...(346)
<221> misc_feature
<222> (1)...(392)
<223> n = A, T, C or G
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a gat ctt gag cgt cat gag tgc ctg ggg tac gcc ttt tca tcg cgt ccg 49
 Asp Leu Glu Arg His Glu Cys Leu Gly Tyr Ala Phe Ser Ser Arg Pro
  1
                                        10
                                                            15
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Arg Val Ala Ser Arg Leu Leu Ile Asn Glu Ser Arg Ala Leu Met Ser gcg gca ttg gat ggt ttt ggc ata gtg ctc ggc ccg caa gac ttc ctg Ala Ala Leu Asp Gly Phe Gly Ile Val Leu Gly Pro Gln Asp Phe Leu 50 cga acg gcg ttg gcg agt ggc gag ttg gtg cgg gtg ttg ccg gag ttt Arg Thr Ala Leu Ala Ser Gly Glu Leu Val Arg Val Leu Pro Glu Phe 65 70 75 80 gag gct ccg agt cgg tcg atg cat ttg gtc tac acc gca aac cgc cag Glu Ala Pro Ser Arg Ser Met His Leu Val Tyr Thr Ala Asn Arg Gln 85 90 95		gat Asp															97
Ala Ala Leu Asp Gly Phe Gly Ile Val Leu Gly Pro Gln Asp Phe Leu 50 55 Cga acg gcg ttg gcg agt ggc gag ttg gtg cgg gtg ttg ccg gag ttt Arg Thr Ala Leu Ala Ser Gly Glu Leu Val Arg Val Leu Pro Glu Phe 65 Gag gct ccg agt cgg tcg atg cat ttg gtc tac acc gca aac cgc cag Glu Ala Pro Ser Arg Ser Met His Leu Val Tyr Thr Ala Asn Arg Gln 90 Cgt acc gcc aag ttg cgc tgc ttt gtc gag act gtg ctg gga cgt ttt Arg Thr Ala Lys Leu Arg Cys Phe Val Glu Thr Val Leu Gly Arg Phe 100 105 Ggt ccg gta tgaaggagca ccaccgtggc ggtcgccggg angcacctaa Gly Pro Val 115 agatct 220> 4221> 115 2212> PRT 4213> Unknown 4200> 4220> 4223> Microbial organism from the human gut 4400 4 Asp Leu Glu Arg His Glu Cys Leu Gly Tyr Ala Phe Ser Ser Arg Pro 1 1 5 10 11 Ala Asp Arg Glu Trp Val Phe Phe Gln Gly Thr Val Ser Tyr Lys Val 20 20 Arg Val Ala Ser Arg Leu Leu Ile Asn Glu Ser Arg Ala Leu Met Ser 35 Ala Ala Leu Asp Gly Phe Gly Ile Val Leu Gly Pro Gln Asp Phe Leu 50 Arg Thr Ala Leu Ala Ser Gly Glu Leu Val Arg Val Leu Pro Glu Phe 50 Arg Thr Ala Leu Ala Ser Gly Glu Leu Val Arg Val Leu Pro Glu Phe 50 Arg Thr Ala Leu Ala Ser Gly Glu Leu Val Arg Val Leu Pro Glu Phe 50 Arg Thr Ala Leu Ala Ser Met His Leu Val Tyr Thr Ala Asn Arg Gln 80 80 249 80 249 241 241 241 241 241 241 241	_		Ala	-	_	_		Ile		_	_		Āla	_	_	_	145
Arg Thr Ala Leu Ala Ser Gly Glu Leu Val Arg Val Leu Pro Glu Phe 65		Ala	_	_			Gly					Pro					193
Glu Ala Pro Ser Arg Ser Met His Leu Val Tyr Thr Ala Asn Arg Gln 85 90 95 95 cgt acc gcc aag ttg cgc tgc ttt gtc gag act gtg ctg gga cgt ttt 337 Arg Thr Ala Lys Leu Arg Cys Phe Val Glu Thr Val Leu Gly Arg Phe 100 105 110 ggt ccg gta tgaaggagca ccaccgtggc ggtcgccggg angcacctaa 386 Gly Pro Val 115 agatct 392 <210> 4 <211> 115 <222> PRT <213> Unknown <220> <223> Microbial organism from the human gut <4400> 4 Asp Leu Glu Arg His Glu Cys Leu Gly Tyr Ala Phe Ser Ser Arg Pro 1 Ala Asp Arg Glu Trp Val Phe Phe Gln Gly Thr Val Ser Tyr Lys Val 20 Arg Val Ala Ser Arg Leu Leu Ile Asn Glu Ser Arg Ala Leu Met Ser 35 Ala Ala Leu Asp Gly Phe Gly Ile Val Leu Gly Pro Gln Asp Phe Leu 50 Arg Thr Ala Leu Ala Ser Gly Glu Leu Val Arg Val Leu Pro Glu Phe 70 Glu Ala Pro Ser Arg Ser Met His Leu Val Tyr Thr Ala Asn Arg Gln 90 95 337 347 35 36 37 386 386 386 386 386 386 387 388 389 386 380	Arg	-	-			Ser					Arg					Phe	241
Arg Thr Ala Lys Leu Arg Cys Phe Val Glu Thr Val Leu Gly Arg Phe 100		_	_	_	Arg	_	-		_	Val			_		Arg	_	289
Gly Pro Val 115 392 agatct 392 <210 > 4 <211 > 115 <221 > PRT	_		-	Lys	_	_	_		Val	-			_	Gly			337
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1	<400> 4																
Ala Asp Arg Glu Trp Val Phe Phe Gln Gly Thr Val Ser Tyr Lys Val 25		Leu	Glu	Arg		Glu	Cys	Leu	Gly	_	Ala	Phe	Ser	Ser		Pro	
Arg Val Ala Ser Arg Leu Leu Ile Asn Glu Ser Arg Ala Leu Met Ser Ala Ala Leu Asp Gly Phe Gly Ile Val Leu Glu Asp Phe Leu 50		Asp	Arg		Trp	Val	Phe	Phe		Gly	Thr	Val	Ser	_	Lys	Val	
Ala Ala Leu Asp Gly Phe Gly Ile Val Leu Gly Pro Gln Asp Phe Leu 50	Arg	Val			Arg	Leu	Leu			Glu	Ser	Arg			Met	Ser	
Arg Thr Ala Leu Ala Ser Gly Glu Leu Val Arg Val Leu Pro Glu Phe 65 70 75 80 Glu Ala Pro Ser Arg Ser Met His Leu Val Tyr Thr Ala Asn Arg Gln 85 90 95	Ala			Asp	Gly	Phe			Val	Leu	Gly			Asp	Phe	Leu	
Glu Ala Pro Ser Arg Ser Met His Leu Val Tyr Thr Ala Asn Arg Gln 85 90 95			Ala	Leu	Ala			Glu	Leu	Val			Leu	Pro	Glu		
		Ala	Pro	Ser	Arg		Met	His	Leu	Val		Thr	Ala	Asn	Arg	_	
	Ara	Thr	Ala	Lys		Arq	Cys	Phe	Val		Thr	Val	Leu	Gly		Phe	

110

105

100

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Gly Pro Val
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Gln His Arg Arg Cys Gln Ile Thr Lys Ala Tyr His Glu Ala Arg Leu
                            40
Val Glu Gln Ser Arg Arg Gln Arg Thr Ala Leu Gln His Pro His Gln
                        55
Arg Leu Lys Leu Ser Arg Thr Pro Arg His Met Gln Asp Val Gly Cys
                    70
                                        75
Val Ala Leu Thr Gly Gly Leu Gln Ala Ala Lys Asp Leu Ser His Gln
Ser Thr Lys Thr Arg Tyr Ser Pro Ala Gly Gly His Arg Asp Gly Pro
                                105
Xaa Val
<210> 6
<211> 190
<212> PRT
<213> Clostridium pasteurianum
Met Asn Lys Thr Lys Asp Asn Ile Phe Tyr Ser Ala Ile Lys Val Phe
Ser Asn Asn Gly Tyr Asn Gly Ala Thr Met Asp Glu Ile Ala Ser Asn
Ala Gly Val Ala Lys Gly Thr Leu Tyr Tyr His Phe Lys Ser Lys Glu
Glu Ile Phe Lys Tyr Ile Ile Glu Glu Gly Val Asn Leu Met Lys Asn
Glu Ile Asp Glu Ala Thr Asp Lys Glu Lys Thr Ala Leu Glu Lys Leu
Lys Ala Val Cys Arg Val Gln Leu Asn Leu Ile Tyr Lys Asn Arg Asp
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85 90 Phe Phe Lys Val Ile Ala Ser Gln Leu Trp Gly Lys Glu Leu Arg Gln 105 Leu Glu Leu Arg Asp Ile Met Arg Asn Tyr Val Val His Ile Glu Glu 120 125 Phe Val Lys Asp Ala Met Glu Ala Gly Ser Ile Lys Lys Gly Asn Ser 135 Leu Phe Val Ala Tyr Ala Phe Leu Gly Thr Leu Cys Ser Val Ser Leu 150 155 Tyr Glu Val Ile Asn Ala Glu Asn Asp Asn Ile Asn Asn Thr Ile Glu 165 170 Asn Leu Met Asn Tyr Ile Leu Asn Gly Ile Gly Leu Gln Asn 180 185

<210> 7 <211> 200

<212> PRT

<213> Mycobacterium tuberculosis

<400> 7

Met Asp Arg Val Ala Gly Gln Val Asn Ser Arg Arg Gly Glu Leu Leu 5 Glu Leu Ala Ala Met Phe Ala Glu Arg Gly Leu Arg Ala Thr Thr Val Arg Asp Ile Ala Asp Gly Ala Gly Ile Leu Ser Gly Ser Leu Tyr 40 His His Phe Ala Ser Lys Glu Glu Met Val Asp Glu Leu Leu Arg Gly Phe Leu Asp Trp Leu Phe Ala Arg Tyr Arg Asp Ile Val Asp Ser Thr 75 Ala Asn Pro Leu Glu Arg Leu Gln Gly Leu Phe Met Ala Ser Phe Glu 90 Ala Ile Glu His His His Ala Gln Val Val Ile Tyr Gln Asp Glu Ala 100 105 Gln Arg Leu Ala Ser Gln Pro Arg Phe Ser Tyr Ile Glu Asp Arg Asn 120 Lys Gln Gln Arg Lys Met Trp Val Asp Val Leu Asn Gln Gly Ile Glu Glu Gly Tyr Phe Arg Pro Asp Leu Asp Val Asp Leu Val Tyr Arg Phe 150 155 Ile Arg Asp Thr Thr Trp Val Ser Val Arg Trp Tyr Arg Pro Gly Gly 165 170

Pro Leu Thr Ala Gln Gln Val Gly Gln Gln Tyr Leu Ala Ile Val Leu

180 185 Gly Gly Ile Thr Lys Glu Gly Val 195 200

<210> 8

<211> 192

<212> PRT

<213> Auifex aeolicus

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Lys Ile Leu Ser Ser Ala Leu Lys Leu Phe Ser Lys Lys Gly Phe Lys
                                25
Glu Thr Thr Ile Lys Asp Ile Ala Lys Glu Val Gly Ile Thr Glu Gly
Ala Ile Tyr Arg His Phe Thr Ser Lys Glu Glu Ile Ile Lys Ser Leu
Leu Glu Ser Ile Thr Lys Glu Leu Arg His Lys Leu Glu Val Ala Leu
                                        75
Gln Arg Gly Glu Thr Asp Glu Glu Ile Leu Glu Ser Ile Val Asp Thr
                                    90
Leu Ile Asp Tyr Ala Phe Ser Asn Pro Glu Ser Phe Arg Phe Leu Asn
                        105
Leu Tyr His Leu Leu Lys Glu Tyr Gly Glu Val Lys Asn Leu Pro Gly
                            120
Glu Leu Ile Leu Lys Phe Leu Asn Gly Leu Tyr Leu Lys Arg Lys Leu
                        135
Lys Thr Tyr Pro Glu Ile Ala Leu Ala Val Val Thr Gly Ser Val Glu
                    150
Arg Val Phe Ile Phe Lys Glu Arg Asn Phe Leu Asp Tyr Asp Glu Glu
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Thr Ile Lys Lys Glu Leu Lys Lys Val Leu Lys Ser Ala Ile Leu Ala
            180
                                185
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<400> 9
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<210> 10
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<400> 10
tctgctcata cacqtcacq
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19